

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, the claims have been amended for clarity.

The Examiner has rejected claims 1, 4-8, 10-12 and 14-20 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,784,468 to Klayman in view of U.S. Patent 4,778,027 to Taylor, and further in view of U.S. Patent 6,154,549 to Arnold et al.

The Klayman patent discloses spatial enhancement speaker systems and methods for spatially enhanced sound reproduction.

The Taylor patent discloses a rhythmizer in which a sound-generating means is coupled to a structure.

The Arnold et al. patent discloses a method and apparatus for providing sound in a spatial environment.

Claim 1 includes the limitations "A device having a first and a second sound-generating means and an input for a stereo signal comprising left and right sound signals, wherein the device has an interconnected first and second part comprising the first and the second sound-generating means, respectively, the first part being formed so as to couple soundwaves generated by the first sound-generating means into a surface when said device is placed upon said surface, wherein coupling soundwaves into the surface results in a co-vibrating of (i) the first sound-generating means and (ii) the surface to form (iii) a spatially extended source, and wherein the device has means for sending a first signal, being a first composite of the left and right sound signals, to the first

sound-generating means of the first part, and a second signal, being a second composite of the left and right sound signals different from said first composite, to the second sound-generating means of the second part, and wherein responsive to the co-vibrating of the first sound-generating means and the surface, a sound volume produced by said first part and said surface at a distance of one (1) meter from said first part is increased by at least 6 dB as compared to a sound volume produced by the first part when used in air and not coupled to said surface."

The Examiner has stated:

"Regarding claim 1, Klayman discloses a device having a first and a second soundgenerating means (Figures 1 and 2; speaker assemblies 100 and 140), and an input for a stereo signal (Figure 1; column 4, lines 29-40) comprising left and right sound signals (Figures 1 and 2), and wherein the device has an interconnected first and second part comprising the first and second sound generating means (Figures 1 and 2; each speaker assembly includes a first and second sound generating means) , respectively, and wherein the device has means for sending a first signal which is a composite of the left and right sound signals, to the first sound-generating means of the first part), and a second signal, which is a different composite of the left and right sound signals, to the second sound-generating means of the second part (Figures 1 and 2; column 4, lines 44-49-63).

"Klayman teaches of coupling sound waves (Figures 1-4). Klayman fails to teach of coupling sound waves generated by the first sound-generating means into a surface when placed upon said surface. Taylor teaches of coupling sound waves generated by a first sound-generating means into a surface when placed upon said surface (Figures 8 and 9; column 3, lines 60-column 4, line 20; column 4, line 61- column 5, line 2). It would have been obvious to modify Klayman so that the first sound generating means couples sound waves into a surface when placed upon said surface for the benefit of providing a better "feel" of the sound or music to the user."

Applicants do not contest this description of the teachings of Klayman and Taylor.

The Examiner now adds:

"Klayman as modified fails to disclose wherein responsive to the co-vibrating of the first sound-generating means and the surface, a sound volume produced by said first part at a distance of one meter from said first part is increased by at least 6 dB as compared to the same part when used in air.

"Arnold discloses that is also possible for a source to be resting on a hard, soundreflecting surface and radiating hemispherical waves. Under those conditions, the sound intensity level $L_{sub.1}$ and the sound pressure $L_{sub.p}$ at a distance of one meter are 8 dB less than the sound power level, once again diminishing by 6 dB each time the distance is doubled. In actual practice, few sound sources radiate sound equally in all directions, and there are often reflecting surfaces nearby that destroy the symmetry of the spherical or hemispherical waves (column 7, line 62-column 8, line 3).

"Based on Arnold's teaching, the examiner asserts that it is a matter of design choice as to how the sound volume will be produced. Therefore, it would have been obvious to modify Klayman so that the sound volume is produced as claimed for the benefit of producing a specific desired output."

Applicants submit that the Examiner has failed to realize what is being disclosed by Arnold. In particular, Arnold states that the source is "resting on a hard, soundreflecting surface and radiating hemispherical waves." However, there is no disclosure of the source being "coupled" to the surface. Further, while Arnold discloses a 3 dB improvement over using the source in free space as opposed to "resting" on the surface (11 dB decline in free space at 1 meter, as opposed to 8 dB decline when resting on the surface), there is no disclosure of whether what is being measured is the

sound emanating from the source itself or the combined source and the surface (as in the subject claimed invention).

Applicants therefore submit that despite the Examiner's assertion ("...it is a matter of design choice as to how the sound volume will be produced."), Arnold et al. neither discloses nor suggests "wherein responsive to the co-vibrating of the first sound-generating means and the surface, a sound volume produced by said first part and said surface at a distance of one (1) meter from said first part is increased by at least 6 dB as compared to a sound volume produced by the first part when used in air and not coupled to said surface."

In view of the above, Applicants believe that the subject invention, as claimed, is not rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believes that this application, containing claims 1, 4-8, 10-12 and 14-20, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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